



SBIR/STTR SUCCESS

One in 12 men, and about one in 200 women, have some form of color vision deficiency (CVD).



ENCHROMA, INC.

Appreciating the colors around us is something that many people take for granted, but for the estimated 300 million people in the world with color vision deficiency (CVD), it is not a part of their reality. One in 12 men, and about one in 200 women, have some form of CVD. Enter EnChroma, a company whose mission is to help the color blind experience a more colorful world.

PHASE III SUCCESS

EnChroma has grown from 4-35 employees and consultants since 2014, and its glasses have been used by over 40,000 people. In addition to this exponential growth the company has enjoyed a number of strategic partnerships with major brands.

AGENCIES

NIH

SNAPSHOT

EnChroma glasses enhance the vibrancy and saturation of certain colors and improve color discrimination, depth and detail perception, while not a cure for color blindness, about 80% color blind people can be helped by the eyewear. Through EnChroma's partnership with Clorox, 75 color blind schoolchildren in the US received EnChroma glasses.

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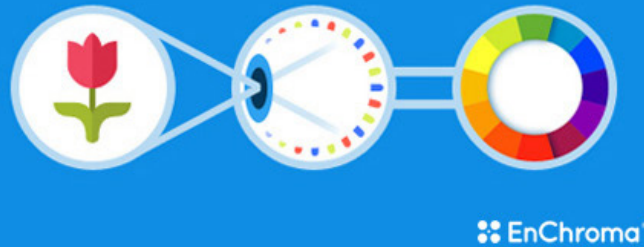
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EnChroma Chief Scientist and co-founder Don McPherson, Ph.D., a glass scientist, was playing Ultimate Frisbee while wearing special eyewear he had developed to protect the eyes of doctors from lasers during surgeries because he liked how the glasses enhanced colors. When a color blind teammate asked to try on the glasses he marveled at all the colors he could see that he had never seen before. Dr. McPherson then began exploring why the glasses might help the color blind better see colors. Co-founder Andy Schmeder, CEO, joined Don and developed sophisticated computer models that simulated wavelengths of light and color vision deficiency.

With the support of three National Institutes of Health (NIH) SBIR grants, EnChroma was born seven years later in 2010 and created glasses for color blind people that enhance color perception by separating light into its primary spectral components before they reach the eye. The glasses are the result of over ten years of R&D based on a rigorous scientific foundation using the latest understandings of the genetic basis of CVD to create a sophisticated computer-based model of human color vision. EnChroma then developed patent-pending design methods to create special spectral filters to assist color vision in a wide variety of applications.

In 2014, EnChroma had four employees and today the company has 35 employees and consultants, and its glasses have been used by over 40,000 people. In addition to this exponential growth the company has enjoyed a number of strategic partnerships with major brands such as The Clorox Company, L'Oreal, 1-800-Flowers and Valspar. Through EnChroma's partnership with Clorox, 75 color blind schoolchildren in the US received EnChroma glasses.

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DON MCPHERSON, PH.D.
CHIEF SCIENTIST AND CO-FOUNDER

“How do you write a winning proposal? It has to be truly innovative, it can’t just be something that’s a small nudge of science if it’s something outside the areas of interest. It’s such a competitive process, so you have to make sure that it’s a good story, the reviewers are reading 100 proposals, so you have to engage them. The science has to be sound, and I’d thought it thorough before I started science-wise, but when beginning, it’s so important to make sure it’s a good story,” said Dr. McPherson.

It is important to note that EnChroma glasses are not a cure for color blindness, but approximately four out of five red-green color blind people can be helped by EnChroma eyewear. EnChroma glasses enhance the vibrancy and saturation of certain colors and improve color discrimination, depth and detail perception. The user’s typical experience takes about 5-15 minutes for an effect.

Many color blind people find their occupational, sports or artistic pursuits limited by their condition. While color blindness is often considered a mild disability, studies

estimate that two-thirds of people with CVD feel it’s a handicap. Studies have found that as much as 80 percent of information is taken in visually. Many color blind students struggle to learn color-coded information in school. This is significant because in the first 10 years of a child’s life the brain experiences its fastest growth. While the merits of this research may seem obvious now, Dr. McPherson credits the SBIR program.

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Today, the company is starting to build out its production plant in Berkeley, California and is working on incorporating new materials into its products to expand their reach. EnChroma glasses have changed to a high end optical plastic developed by the military, Trivex, and are strong enough to take a ballistic hit. EnChroma is also working on contact lenses for children and developing new ways to deliver the technology in the least obtrusive manner possible.